



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 97,223-D)

In re Application of:)	
)	
D. Lansing Taylor)	
)	Art Unit: 1641
Serial No.: 09/468,673)	
)	Examiner: Padmanabhan
Filed: December 21, 1999)	
)	
For: Miniaturized Cell Array Methods and)	
Apparatus for Cell-Based Screening)	

BOX RESPONSE
Commissioner for Patents
Washington, D.C. 20231-9999

Response to Office Action Mailed September 18, 2001

Dear Sir:

Applicants respectfully submit the following remarks in response to the Office Action mailed September 18, 2001.

1. Information Disclosure Statement

The applicants note that the Examiner has not initialed cited references 28-29, 31-36, 38-40, and 43 on sheet 3 of Form PTO-1449. The applicants suspect this is merely an accidental oversight, as these references have been issued both class and subclass numbers. However, the applicants respectfully request that the Examiner initial these references so that each document becomes listed on the face of the patent issuing on the present application.

2. Rejections under 35 U.S.C. § 102(e)

The Examiner has objected to Claims 1, 9, 13-18, and 22 under 35 U.S.C. § 102(e) under the assertion that they are anticipated by Dunlay et al. (US Pat. 5,989,835).

The applicants respectfully traverse this rejection.

The instant application is a continuation of U.S. Pat. 6,103,479 (formerly U.S. App. S/N 08/865,341), which claims priority to provisional application U.S. App. S/N 60/018,696 filed May 30, 1996. Dunlay et al. was filed on February 27, 1997 and therefore the present application claims a priority date preceding that of Dunlay et al. The presently claimed invention is fully supported by priority application 60/018,696 (see, for example, page 13, lines 3-32 for a discussion of a base having a surface containing cell binding sites and page 16, lines 8-35 for a discussion of a fluid delivery chamber which mates with the base to form a cassette). Thus the Dunlay reference does not constitute prior art against the present application.

In view of the above statements, the applicants request the Examiner reconsider and withdraw the objection to Claims 1, 9, 13-18, and 22 as unpatentable over Dunlay et al.

1. Rejections under 35 U.S.C. § 103(a)

The Examiner has objected to Claims 1 and 9-22 under 35 U.S.C. § 103(a) under the assertion that they are obvious over Cherkuri (US Pat. 5,980,704) in view of Sanadi (US Pat. 5,741,463). The Examiner asserts that the combination of the space defining binding locations and fluid location as taught by Sanadi with the device array of Cherkuri renders the instant invention unpatentable. The applicants respectfully traverse this rejection.

The following is a quotation from the MPEP, 706.02(j):

To establish a *prima facie* case of obviousness... the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The presently pending claims recite a cassette for cell screening, comprising

- a) a base having a surface, wherein the surface contains cell binding sites, and wherein the cell binding sites comprise wells and
- b) a fluid delivery system for delivering a combinatorial of reagents to the controlled array of cell types; wherein said fluid delivery system comprises a chamber that mates with the base, wherein the chamber

comprises:

- i) a plurality of domains matching the wells on the surface of the base, and
- ii) microfluidic channels that supply fluid to the domains.

The Examiner asserts that Cherkuri teaches a cassette/fluid array including micron-sized reservoirs, connected microchannels, and reaction cells etched into a substrate. He further asserts that the cassette is multi-layered, wherein three plates are stacked vertically and coupled together to form a liquid-tight seal. However, Cherkuri does not teach a base having a surface, wherein the surface contains cell binding sites, and wherein the cell binding sites comprise wells. Cherkuri also does not teach a chamber comprising a plurality of domains matching the wells on the surface of the base.

Sanadi does not cure the deficiency of Cherkuri, as it does not teach a) a base having a surface, wherein the surface contains cell binding sites, and wherein the cell binding sites comprise wells or b) a fluid delivery system for delivering a combinatorial of reagents to the controlled array of cell types.

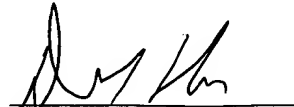
Thus, neither Cherkuri nor Sanadi, alone or in combination, teaches, suggests or makes obvious each of the claimed limitations of the present invention. Furthermore, these references do not teach nor suggest the limitations of the dependent claims, for example a cassette for cell screening comprising the elements of Claims 1 or 17 and a plug at the end of the microfluidic channel (claims 12 and 21) or wherein the domains are selected from the group consisting of etched domains and *raised reservoirs* (Claims 9 and 18).

Therefore, the cited references do not fulfill the requirements for rejection under 35 U.S.C. § 103(a), and thus the applicants request the examiner reconsider and withdraw his objections to Claims 1 and 9-22.

If the Examiner believes that a telephone or personal interview would expedite prosecution of the instant application, the Examiner is invited to call the undersigned at (312) 913-2106.

Respectfully submitted,
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Dated: December 11, 2001

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